

## Regenerative Fuel Cells (RFC)

Completed Technology Project (2012 - 2015)



## Project Introduction

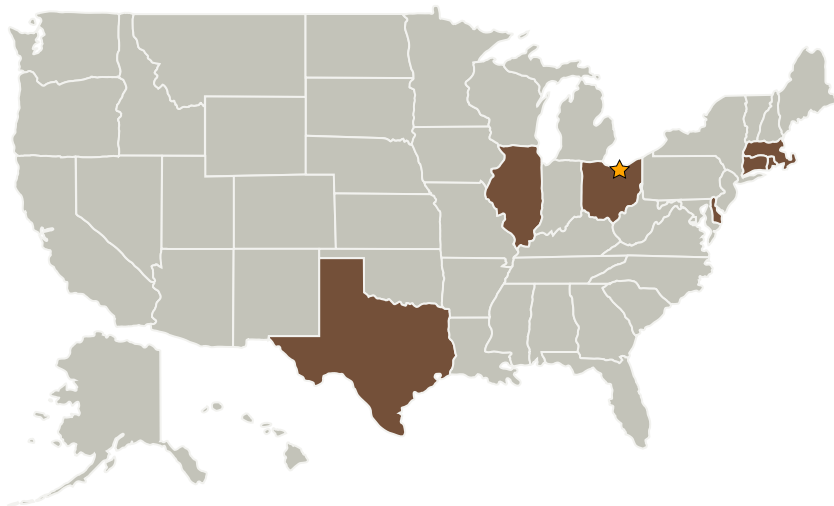
Develop and demonstrate advanced Regenerative Fuel Cell (RFC) technologies that meet NASA's space exploration needs for safe, abundant, reliable, and lightweight power generation and energy storage through the use of innovative passive components such as non-flow-through fuel cells and passive, liquid-feed electrolyzers.

## Anticipated Benefits

The objective of the regenerative fuel cell project element is to develop power and energy storage technologies that enable new capabilities for future human space exploration missions. Abundant power expands the capabilities of every human mission, including missions to asteroids, planets, moons, libration points, and orbiting structures. Furthermore, abundant power provides benefits for all phases of flight: vehicle operations, electric propulsion systems, and destination applications.

Development of high powered energy storage capabilities, such as regenerative fuel cells, can fulfill the strategic goals for NASA, by developing radical, high payoff technologies and enabling missions otherwise energy-prohibitive.

## Primary U.S. Work Locations and Key Partners



## Regenerative Fuel Cells

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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Glenn Research Center (GRC)

**Responsible Program:**

Game Changing Development

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Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations	
Connecticut	Delaware
Illinois	Massachusetts
Ohio	Rhode Island
Texas	

## Project Transitions

 **October 2012:** Project Start **March 2015:** Closed out

## Project Website:

<https://www.nasa.gov/directorates/spacetech/home/index.html>

## Project Management

**Program Director:**

Mary J Werkheiser

**Program Manager:**

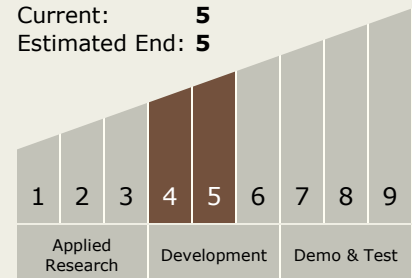
Gary F Meyering

**Principal Investigator:**

Carolyn R Mercer

## Technology Maturity (TRL)

Start: **4**  
Current: **5**  
Estimated End: **5**



## Target Destinations

The Moon, Mars, Earth, Others  
Inside the Solar System